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ABSTRACT

Tai Chi may be an ideal activity for accommodating a wide variety of individuals with varying interests and physical skills while providing substantial health benefits. Theory suggests that children, adolescents, and healthy adults, as well as senior citizens and people debilitated by illness or injury, may benefit from the practice of Tai Chi movements. It has been practiced in China for centuries as a form of art, religious ritual relaxation, exercise, and self-defense. It is one of the few activities that improves with age and practice. Tai Chi may be performed passively (therapeutic) or dynamically (personal defense). There are generations of people who have performed Tai Chi daily and believe in the physical and mental benefits derived from the practice. Though it is not a high intensity exercise, it helps maintain and improve life energy and increase circulation, concentration, focus, and sense of well-being. When risk of injury and flexibility of performance are considered, Tai Chi is a viable alternative to aerobic exercises. The paper suggests its use in school physical education classes. Tai Chi's motions have a calming effect that can influence participants' attitudes. Research suggests that Tai Chi may yield many health benefits. Most noteworthy are findings indicating that participation results in more positive attitudes about exercise and improved mood. It appears that Tai Chi is a safe, beneficial exercise choice for people of all ages, with potential benefits far outweighing risks. (Contains 24 references.) (SM)

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"Stretch Your Body and Your Mind"

(Tai Chi as an adaptive activity)
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Introduction

The embodiment of personal health may be defined as the magnitude of an individual's mental, physical, and spiritual well-being. To this end, the search for an ideal activity or vehicle that could accommodate a wide variety of individuals with their varying interests and physical skills that will provide a substantial health benefit to the participant has resulted in the current experimentation with Tai Chi. The origin of Tai Chi, the potential health benefits of its practice, and the psychosocial applications of this exercise program have been and are currently under investigation. Physical educators profess to help students to become healthy through the routine practice of exercise. They are encouraged to adopt a course of instruction that would follow the American College of Sport Medicine standards for cardiovascular exercise, resistance training, and activity. Although research provides a strong basis for these recommendations, few members of our society manage to reach these benchmarks of physical fitness.

Origin of Tai Chi

There is a legend that 800 years ago Chang-San Feng, a hermit alchemist from Mol-Don Mountain in China, first received the techniques of Tai Chi in a dream (Ho'o, 1986). Another story tells of a legendary Taoist priest, Chang, having developed Tai Chi movements based upon the inspiration of having watched a graceful yet potentially lethal contest between a crane and a snake (Koh, 1981). Regardless of its origin, Tai Chi has been practiced in China for centuries as a form of art, religious ritual, relaxation technique, exercise, and self-defense by young and old alike.

The term Tai Chi is defined as the "grand ultimate". The term refers to the purpose of the exercise which is to help one reach his or her potential. In this sense as a martial art form it appears to "fit" the theory of Self-Actualization originated by Maslow (Donnatelle, 1998). It remains one of the few activities or sports that can boast that performance improves with age and practice. It is usually referred to as a soft style as opposed to a hard style since the movements are intended to be performed with a relaxed body and little or no muscle tension (Crider, 1999). Tai Chi is the most widely practiced formal activity in the world while walking is the most common activity.

Tai Chi forms involve a series of flowing or fluid movements, performed in a quiet, soft, and graceful manner. Each movement is relaxed yet purposeful. An emphasis is placed upon balance of movement and uniformity or bilateral development. The movements should be practiced very slowly and with control. The practice of slow, flowing movements reflects the concept that if you can perform a movement slowly, that movement can then be performed quickly and with ease. The combined movements are to be performed as a unit if possible but may be practiced in parts. There are several types of Tai Chi currently being practiced from the traditional Chen and Yang forms to the more westernized forms. Tai Chi forms may be practiced anywhere and at any time. Tai Chi may be performed very passively (therapeutic) or dynamically (personal defense). It requires no special clothing or gear nor does it require a mastery of skill at the basic levels of instruction in order to achieve many of the benefits of this ancient adaptive form of movement.

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Psychosocial Applications

There are generations of people who have performed Tai Chi as a part of daily life and believe in the physical benefits derived from the practice. Fitness recommendations, such as those developed by the American College of Sport Medicine, suggest that all individuals maintain cardiovascular conditioning through aerobic activity 3-5 days per week while reaching 60-90% of their maximum heart rate. This intensity level depends upon the physical abilities of the participant. Participants should practice a common sense approach to intensity. Many experts recommend that a sedentary or deconditioned person begin with exercise or activity sessions at intensity levels that are below this standard level. An intensity level is to be maintained for 15-60 minutes, again depending upon the conditioned level of the participant. Included in the time allotment should be an adequate warm-up and warm down. Individuals are to be active 6-7 days of the week and utilize resistance exercises 2-3 days per week in order to maintain strength and bone density. Tai Chi is thought to help maintain and improve the life energy (chi) of an individual (Ho'o, 1986). The movements are intended to increase circulation, concentration, focus, and a sense of good feeling.

Improved coordination of physical movement is usually the focus of the research in recent years. When performed as an aerobic exercise, Tai Chi does not lead participants to high levels of work. The average participant increases his/her pulse rate but seldom does it exceed 50-60% of their maximum heart rate(MHR). Healthy college students enrolled in credit classes in Tai Chi seldom exceed exercise heart rates of 45-55% MHR. When compared to running, step aerobics, or swimming for fitness, Tai Chi may not measure up to the cardiovascular standards. However, when the risk of injury and flexibility of performance is compared, Tai Chi remains a viable alternative, especially for those who tend to be sedentary.

Participants of Tai Chi are intended to benefit emotionally from the calming motion and this calming affect will transcend the practice and filter or influence the attitude of the individual. It is anticipated that the regular practice of Tai Chi will result in a decreased level of stress and an increased sense of self-worth.

The cognitive function of an individual who practices Tai Chi is said to remain active and focused. The slow controlled movements require concentration and active thought in order to result in improved skill of movements.

The social aspect of the art can be different for each individual. When practiced in a group, the patterned forms allow strangers to perform the series of movements like a practiced team. Although the form has a beginning and culminating action, the form may commence with any single movement. The confidence that is gained from the successful completion of the movements and the improved performance is considered enhancing to the individual's social comfort to move and function within the community as an active participant.

Tai Chi has its beginnings in Taoism. Its religious origins have not prevented Tai Chi from becoming more westernized. In most communities within the United States, the religious significance of the form is lost. The practice of the form does lend itself to self-reflection, inner thought, and potential spiritual enhancement. Each participant may choose to find a sort of inner peace during the performance of the movements. Neither prayer nor the spoken word is part of the form; there is no need to repeat a mantra or chant. Tai Chi is very adaptive to each individual's sense of religion or spiritual practice.

Potential Benefits

A review of the literature has revealed that there is a need for further investigations, both large scale and diverse. The research that has been done, though inconclusive, suggests that the regular practice of Tai Chi may yield many benefits to the participant. Physically, the cardiovascular fitness levels may improve with practice. This is especially true of those in our society that are most sedentary such as seniors, those in nursing homes, and those who seldom leave their homes. Some studies have found that an increase in stability resulted from the regular practice of Tai Chi while still others concluded that there were increases in postural stability (Shih, 1997), decreases in blood pressure (Wolf, et. al, 1996), and decreases in the decline in Cardiovascular conditioning (Lai, et. al., 1995). The initial research involving patients who suffer from Rheumatoid Arthritis found stimulated bone growth and a decrease in join pain as a result of regular practice of Tai chi (Kirstein, Dietz, and Hwang, 1991). One of the most documented studies of Tai Chi's use as a therapeutic modality found that regular practice of Tai Chi reduced the risk of multiple falls by 47.5% (Wolf et al, 1996).

Most noteworthy however may be the research findings, which indicated that participation resulted in an increase in a more positive attitude regarding exercise and an improved mood (Tse & Bailey, 1992). Additional studies that have been conducted seem to indicate that the regular practice of Tai Chi may help sustain brain activity and delay the aging process. Varied yet limited research found that an increase in self-esteem (Brown, et al, 1995), a decreased fear of falling, and an increased confidence level may result from the regular practice of Tai Chi (Kutner, et. al., 1997).

Health experts tend to agree that social isolation is unhealthy and social death may result if a person is no longer treated as an active member of a family or community (Donatelle, 1998). If the effects of illness or injury and the resultant isolationism that may occur could be prevented or treated with a therapeutic activity such as Tai Chi then it should warrant additional practical research. Although the results of this review of literature appears to be overwhelming, there is a need to conduct many more studies that involve larger sample groups and include statistical methodology that will result in more empirical evidence to support these very positive pilot findings.

Conclusions and Recommendations

Based on the data available, it appears that Tai Chi is a safe and potentially beneficial exercise selection for participants of all ages. Although most of the available research has targeted seniors and those debilitated by illness or injury, there is an ongoing theory that suggests that children, adolescents, and healthy adults may benefit from the practice of Tai Chi movements. There are few contraindications for employing Tai Chi exercise in any setting. One such contraindication would be if the expertise of instruction were not sufficient to appropriately fit the movements to the population. Other considerations include time, location, and interest. If there is not sufficient time routinely committed to such a practice, participants may sense this rush and interpret it as a valueless activity. The location should lend itself to the peaceful, relaxed, and quite exercise. Beginners are not likely to be able to isolate their thoughts to the instruction and practice if too many distractions exist. Music may be used as an aid to create an atmosphere conducive to Tai Chi practice. The music should be used to center thoughts rather than distract. It should also represent the primary sound in the practice setting with no competing noises and sounds.

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Finally, if the individual is not interested in Tai Chi, there is often no type of presentation, instruction, or enticement that will convince a person to participate. Some view Tai Chi as only a moving meditation. Although this is one aspect of the exercise, it does not represent the entire exercise. Tai Chi is used as a practice for personal defense and many participants of very active, combative styles of martial arts find in Tai Chi a means of obtaining physical control and inner calm.

A summary of the research suggests that the potential benefits far outweigh the risks of Tai Chi. Historically, Tai Chi has been used as a healthy exercise program. There do not appear to be any records that suggest that Tai Chi is harmful to the participant. As with all exercise, it is suggested that participants be in sound physical condition or consult a physician prior to beginning any exercise. It is also advisable that proficient instructors be consulted or employed to initiate the instruction of Tai Chi. Proper form complete with body position, balance, and movements is essential. In hospital or managed care settings, a physician, nurse, activity specialist or alternate medical expert should be on site in order to monitor the exercise and intervene should a participant be observed to be under stress. As with all forms of exercise, proper instruction is critical, competent supervision is necessary, and participant care is mandatory.

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